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AUTHOR Sammon, Susan F.
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ABSTRACT

A study investigated whether a positive correlation existed between scores obtained by incoming freshman on the recently developed Degrees of Reading Power Test (DRP) and the required Reading Comprehension subtest of the New Jersey College Basic Skills Placement Test (NJCBSPT). The subjects, 217 William Paterson College freshman enrolled in a lower level developmental reading course and 91 enrolled in a higher level course, were pretested with the NJCBSPT in the summer of 1987 before course enrollment. Placement in developmental reading courses was made based on scores obtained with this test. Pretesting with the DRP took place the first week of class and posttests were conducted at the end of the semester. Results indicated that the new test, DRP, does correlate positively with the current state test, NJCBSPT, in its present format. For this sample, sex was a factor on the DRP, with males significantly outperforming females across levels. Students who completed a basic skills course which emphasized comprehension strategies taught through the reading of a variety of whole texts (content area selections, news stories, and novels) made significant gains as measured by comprehension tests such as DRP and NJCBSPT. The direct-instruction-via-whole-language-materials model appears to be effective. (RS)

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# A CORRELATION STUDY:
# THE NEW JERSEY COLLEGE BASIC SKILLS PLACEMENT TEST AND DEGREES OF READING POWER TEST

A Graduate Project Presented to the
Faculty of William Paterson College

In Partial Fulfillment of the
Requirements for the Degree
of Master of Education-Reading

Presented to:
Dr. Joan T. Feeley
Research in Reading
May, 1988

Submitted by:
Susan F. Sammon

CS505191

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# CHAPTER I

## The Problem

All freshmen entering public colleges are required to take the New Jersey College Basic Skills Placement Test (NJCBSPT). This test which measures ability is reading, writing, and math, is given as a mechanism by which to ascertain whether or not each student posesses the requisite basic skills necessary for college success. This study concerns the reading comprehension subtest only. Students who do not score above the minimum cut-off, established by each college, are placed in developmental reading courses.

To insure proper placement of students, other criteria such as SAT scores, writing scores, or scores on other standardized tests are often used. Usually, another standardized reading test is administered to validate the results of the NJCBSPT reading comprehension subtest. Typically, the Nelson-Denny Reading Test, which measures vocabulary, reading comprehension, and reading rate, has been the test of choice. It offers a timed, multiple choice format and norms for two and four year colleges.

The Degrees of Reading Power is a fairly new test that offers college norms. It has a modified cloze format and is administered in an untimed situation. Although Degrees of Reading Power checks the product rather than the process of comprehension

during sustained reading (Wood, 1987), it may be a viable alternative to other standardized tests such as the Nelson-Denny.

## Purpose of the Study

The purpose of this study is to ascertain whether or not there is a correlation between scores on the Degrees of Reading Power Test and the Reading Comprehension subtest of the New Jersey College Basic Skills Placement Test.

Even though the formats of the above mentioned tests are significantly different, either test can be used as an instrument to measure a college student's comprehension since appropriate norms are available for both.

## Statement

The problem for this study will be stated as follows: Is the Degrees of Reading Power Test a good predictor of reading comprehension ability for college freshmen enrolled in basic skills courses?

Specifically, if the Degrees of Reading Power Test is administered to a typical state college cohort group of freshmen:

1. Will results show a significant correlation with the reading comprehension subtest of the New Jersey College Basic Skills Placement Test?
2. How will pre- and post-test results of Degrees of Reading Power compare with those recorded on the reading comprehension subtest of the New Jersey College Basic Skills Test?
3. Will sex be a factor?

## Definitions

1. Degrees of Reading Power Test-DRP-a passage dependent, modified cloze procedure comprehension test that contains graded passages. It is administered without time constraints placed on the testee.
2. The New Jersey College Basic Skills Placement Test-reading comprehension subtest-NJCBSPT_a multiple choice, comprehensive reading test that addresses main idea, inferences, general understanding, author's purpose, and sentence relationships. This test is usually given in a timed situation. State of New Jersey(1986).

## Limitations

The basic limitation of this study is that all participants attend William Paterson College and are not necessarily representative of all students attending college in New Jersey. Most participants live within a fifty mile radius of the college, come from middle to lower-middle income families, and have a mean SAT score of 916. Also, only William Paterson College students enrolled in basic skills reading courses were participants. Results, therefore, may be generalized only to similar populations.

The Hawthorne Effect, however, does not apply as the participants were unaware of the study itself. They knew another standardized reading test would be administered to validate their

placement but were not aware that Degrees of Reading Power was a new measure to be used at William Paterson College.

## Significance

This study will specifically focus on the implications of the data collected at William Paterson College which compares student scores on the DRP with NJCBSPT reading comprehension scores.

It is important for colleges to validate scores on the state test since one score on one test is not adequate to assess a student's reading ability. Reliance on one validation measure, the Nelson-Denny Test, raises questions. The Nelson-Denny has been criticized as having prior knowledge bias (Feeley, Wepner, Willging, 1985) and can thus discriminate against subgroups who have not received background knowledge afforded by comprehensive high school programs.

As new tests with new formats and appropriate norms are developed, it behooves colleges to try them out with populations and analyze the results against those obtained from state mandated tests.

This study will be significant for other college basic skills programs by offering information on an alternative standardized test which might be used as a validation instrument, if not for

all students, for specific sub-groups such as Learning Disabled, English as a Second Language, and EOF students.

# CHAPTER II

## Literature Review

Students who enter state colleges in New Jersey are required to take the NJCBSPT. The reading comprehension subtest closely resembles comprehension subtests of traditional standardized reading tests such as the Metropolitan Achievement Test in Reading, and the Iowa Silent Reading Test in both content and form. Students are asked to read short selections and answer literal and inferential questions through of a multiple choice format.

The Degrees of Reading Power Test, based on a linguistic model(Bormuth,1985), also checks comprehension but by a modified cloze procedure in which the reader is required to read a passage and fill in missing words. Choices are offered in a multiple choice format. Each item fits syntactically and semantically in the sentence but only one option makes sense in the larger context of the selection.

When the DRP is used in conjunction with the NJCBSPT, college personnel may be able to get a more accurate picture of students' comprehension abilities.

The literature reviewed in this study will address the strengths, weaknesses, and differences of both tests as well as

the strengths and weaknesses of the Nelson-Denny Reading Test which is the most frequently used test in college reading programs and current test of choice used to validate the reading comprehension subscores of the NJCBSPT in New Jersey colleges.

NJCBSPT

The New Jersey Board of Higher Education authorized the development of the NJCBSPT in 1977, as a measure for determining (incoming freshmen)preparedness for college(NJDHE,1986). Since its first administration in 1978, more than 540,000 students have taken the NJCBSPT (NJDHE, 1987).

The NJCBSPT reading comprehension subtest contains twelve passages of common general interest. Readability ranges from 9th to 12th grade (Wehrle,1985). It is a multiple choice, timed, comprehensive reading test that focuses on reading subskills. Because of the format, comprehension is not tested through sustained reading (Wood, 1987).

Tests in the NJCBSPT series were developed by high school teachers and college faculty who serve on the New Jersey Basic Skills Council and Council Advisory Committees.

Each form of the Reading Comprehension subtest contains 47 questions. These pertain to main idea, inferences, and general understanding of what the text says. Students are expected to see relationships among sentences, discriminate the function of sentences within text, spot general and specific ideas,

understand author's purpose, tone and beliefs as well as answer predictive type questions (Wood, 1987). Seven of the forty-seven items are embedded and function as test or control items and are not included in student scores. Scores are reported in both raw and scaled scores.

The State of New Jersey recommends that only scaled scores be taken into consideration for the NJCBSPT. The reason for this is that levels of difficulty vary slightly from form to form and because older versions of the test contained more items than newer forms.

Although the NJCBSPT is closely scrutinized on an annual basis, it was revealed at the New Jersey Basic Skills Conference, held on April 14, 1988, that there is a preference toward inferential questions on the test. Although Feeley, Wepner, and Wehrle(1987) reported passages to be based on general knowledge and less specific to prior knowledge, the Basic Skills Council found that topics on current forms of the test were more historically based than general knowledge oriented. Additionally, it has been decided that the sentence relationship portion of the test will be phased out, however, this will take three years to complete. (See Appendix A for NJCBSPT Reading Passage Selection Criteria).

According to the New Jersey Basic Skills Council, colleges have some latitude in establishing cut-off scores for remedial

students. In 1984, converted scores ranged from a 161 to a 168 at state and county schools.

Once a student has been placed in a remedial course, he is typically retested at the end of the semester with the NJCBSPT, a standardized test such as the Nelson-Denny, or both. Each college has the freedom to determine if a st.dent has acquired the necessary requisite skills to succeed in credit-bearing English or general education courses.

The Nelson-Denny Reading Test

The Nelson-Denny Reading Test was first developed in 1929 as a survey instrument designed to check vocabulary, comprehension, and reading rates on average college populations. It has undergone changes and renorming several times for the 1981 version. Scores are given for each of the subtests as well as a composite vocabulary/comprehension total. Raw scores may be converted to scores that yield grade equivalents and percentile ranks. Currently, two sets of forms are available for college use(C and D, E and F). Sets can be used interchangably and follow the same strictly timed format. (Examiner's Manual,p.1 ).

As college admission policies have relaxed and remedial reading programs have begun to flourish, the Nelson-Denny Reading Test has become the most widely used testing instrument in college reading programs across the country. The Gordon and Flippo study (1983) indicates that more than half of the south-

eastern colleges in the United States use the Nelson-Denny Reading Test for remedial screening. The Wood study (1987) cites data from the Southern Regional Education Board determining that 83% of colleges in fifteen southern states use the Nelson-Denny as well.

One strength of the Nelson-Denny Test according to Cummins (1981), is that it provides a reliable ranking of student ability in vocabulary, comprehension, and reading rate. Administration time for the Nelson-Denny is short, scoring is easy, and in comparison to other standardized tests, it's inexpensive. These factors are in part responsible for the widespread use and popularity of this test.

Many specific weaknesses are associated with the Nelson-Denny Reading Test. First, it has low validity and reliability in comparison to other standardized tests( Webb, 1983). Second, because the Nelson-Denny is tied in to what is taught in a comprehensive high school curriculum, prior knowledge has a significant effect on the testtaker's score (Feeley, et al.,1985). Third, even though the developers purport to control for passage dependency (Examiner's Manual,pg.17), the degree of this control remains questionable. As cited in the Entin and Klare study (1980), scores on more difficult passages of the Nelson-Denny were inflated because associated questions could be answered without actual comprehension having taken place. Lastly, all items are of the same approximate difficulty on this test,

therefore, students with little testwiseness ability tend to give up rather than attempt to answer more questions (Reynolds, 1985).

The Nelson-Denny Reading Test, when used for its intended purpose as a survey test, can provide useful information about average college students' reading abilities. Because of the above cited weaknesses, it may not be the best diagnostic tool to assure reading ability of atypical college populations(remedial students).

Degrees of Reading Power Test

The Degrees of Reading Power Test was developed by the New York State Education Department, Touchstone Applied Science Associates, and the College Board as a mechanism for assessing student ability to comprehend prose passages written with increasing successive difficulty. Each passage contains approximately 325 words and has seven deleted words. Students are given five substitutions for each ommission in a multiple choice format. Although all fit syntactically and semantically in the sentence, there is only one correct response for each blank when the total passage is comprehended (Rosencrans, 1985).

The Degrees of Reading Power Test differs from other standardized tests in that it is passage dependent and not influenced by prior knowledge. It, therefore, measures the linguistic skills involved in reading (Bormuth,1985).

Rosencrans (1985) says that reading subskills are not measured with the DRP as they are with other standardized tests. Instead,

comprehension is measured holistically, reflecting reading product rather than process.

Each Degrees of Reading Power Test is a series of eleven graded passages arranged in order of successive text and item difficulty. This test is administered untimed which is of particular value to students who experience test anxiety during timed situations, learning disabled students who often require extra time, and English as a second language students who often require time to focus in on context clues.

Scores are reported in DRP units. Three separate scores are given for each of the three levels of comprehension: independent, instructional, and frustrational. These scores correlate with DRP book and materials lists. (Users Guide PA Series, p4 ).

The Degrees of Reading Power Test is used by several states as part of a regents program. In New York, DRP testing is conducted in grades 3,6,8/9, and 11/12. The standards set for lower grades are to determine the need for remediation. According to DRP Network News (1987) they are as follows:

| GRADE | STANDARD (in DRP Units) |
|---|---|
| 3 | 36 ( p=.70) |
| 6 | 56 ( p=.70) |
| 8/9 | 59 ( p=.70) |
| 11/12 | 65 ( p=.70) |

Connecticut also uses the DRP as a measure for testing statewide mastery however, two standards are used for each grade that is tested, goal and remedial. The standards are as follows:

| GRADE | READING GOAL | REMEDIAL STD. |
|---|---|---|
| 4 | 50 (p=.70) | 41 (p=.70) |
| 6 | 56 (p=.75)* | 50 (p=.75)* |
| 8 | 62 (p=.80)* | 55 (p=.80)* |

* While New York uses the (p=.70) standard, Connecticut has raised the level of task difficulty at each test grade level. (DRP Network News,1987 p3).

The University College (Cincinnati) tests all incoming freshmen with the DRP, prior to enrollment. Based on individual scores, remediation is mandated, strongly suggested, or deemed unnecessary.

Those students for which remediation is "encouraged" are retested at the end of the Fall semester to determine whether further remediation is necessary. Guidelines are as follows:

| | |
|---|---|
| -64 DRP units (p=.75)* | required remediation |
| 64-68 DRP units (p=.75)* | encouraged remediation |
| +68 DRP units (p=.75)* | remediation unnecessary |

* It should be noted that the University of Cincinnati used the high school form(PA-2) because the college level form was not yet normed at the time (College Board, 1985).

For four year colleges, the College Board suggests using DRP scores of 70 as an appropriate predictor of success in college

reading since their study of general education texts showed that texts in the humanities area were written at 68 DRP units and texts in natural sciences areas were written at 73 DRP units.

Rankin and Lacefield (1985) conducted a study in Kentucky in which 21 universities and colleges participated. The DRP was administered to 2,274 students who planned on enrolling in teacher education programs. Prior to the student testing, textbook readabilities were done to determine the DRP value that students would need to succeed in teacher education programs. Of 250 texts sampled, the average DRP value was 70. The student DRP score averaged 79.6 (SD=11.7) (Rankin and Lacefield,1985 p389). Of the total number of students tested, 428 scored below the standard and 1,773 placed above. The findings of this study indicate that the DRP may be a useful tool for screening potential teachers.

## Conclusions

While compiling this research, several points became evident to this reviewer about standardized reading tests and the Nelson-Denny specifically. First, prior knowledge is too much of a factor on this type of a test. Many freshmen make the decision to attend college toward the end of high school and, therefore, may lack the content information necessary to score adequately. Many times this is a result

of the curriculum they were in as secondary students and does not necessarily reflect reading skills deficiency (Feeley et al.1985).

Second, strict timing on standardized tests has a negative effect on atypical student populations. The Kerstiens study (1986) points out that strict timing prevents students with insufficient schemata from developing external and internal frameworks necessary for dealing with concepts and abstractions. Third, Cummins indicates in his study of the Nelson-Denny Reading Test, that students skilled in testwiseness can fare well on forms E and F by just reading the questions and locating information.

Furthermore, the Nelson-Denny Reading Test was never designed to be used as a screening mechanism for remedial college students or to show semester gains, yet it is commonly used for those purposes.

The NJCBSPT, on the other hand, uses general interest selections in which prior knowledge is not a significant issue. Testwiseness is controlled for by the type of questions asked. The NJCBSPT was designed as a screening instrument for incoming college freshmen. Closely scrutinized and revised on an annual basis, it requires more attention to detail and analysis than do other standardized tests. Currently, the New Jersey Basic Skills Council is in the process of changing some items and passages and publishing a post-test form.

The Degrees of Reading Power Test has a psycholinguistic

base and is formatted in a modified cloze procedure. Because items are passage dependent, testees are required to read and extract exact meaning from the text. This test is administered untimed and, therefore, reduces anxiety among atypical populations. The DRP yields scores at the frustrational, instructional, and independent levels thus allowing the reader to be matched with suitable materials. It can be used as a screening mechanism to indicate the need for remediation or as a pre- and post-test to show growth.

The data contained herein seem to indicate that if multiple testing of students is necessary, more than one type of format should be used as a validation for the reading comprehension subtest of the NJCBSPT. The DRP appears to be a more viable alternative than the Nelson-Denny which is the most commonly used.

# CHAPTER III

## Introduction

Since this study proposed to try out a new college reading test, the DRP, on a population of New Jersey college freshmen and ascertain how well the new test correlated with the prescribed New Jersey Basic Skills Placement Test, it can be considered a study of concurrent validity of the two tests.

This chapter will discuss the participants of the study as well as the procedures utilized in conducting the study.

## Procedures

Initally, a pilot test was conducted on a small student sample (N=36), at the end of the Spring,1987,semester using DRP and NJCBSPT post-test scores. The results yielded a moderate to high positive correlation(r=.73) between the two tests. It was then decided to pre- and post-test all developmental students during the Fall,1987, semester. The students in this study were pre-tested with the 1987 version of the NJCBSPT prior to enrollment but after acceptance to the college to determine course level placement. Once their level was established, they enrolled in various sections and were taught by different instructors.

On the first day of class, all students in RLA-107 were given the DRP test, form A. RLA-109 students were tested with DRP form B. Students in RLA-107 who had DRP scores between 48 and 54 advanced to RLA-109. Students who scored at or above DRP 55 in RLA-107 and 109 were exempted from the remedial requirement and were not considered in this study.

## Subjects

This study was conducted during the Fall,1987, semester, at William Paterson College, Wayne, New Jersey. With its largest student draw from the northern New Jersey area, William Paterson College is one of eight public state colleges. Although there are dormitories, the majority of students commute from surrounding areas. The student composite ranges from recent high school graduates to older students who have returned to school. Blacks and Hispanics constitute 6.1% and 4.3% respectively, of the freshmen class. Most William Paterson College students report coming from middle income families however, fewer than 30% of the students' fathers have college degrees and less than 20% of their mothers hold degrees. Approximately half of the freshmen indicated that attaining a Bachelor's degree is the highest goal that they aspire to.

Participants in this study consisted of 308 freshmen. 217 were from the lower level developmental reading course, RLA-107, and 91 were from the upper level course, RLA-109. Of the 217 enrolled in RLA-107, 137 were female and 80 were males. Of the 91 students taking RLA-109, 48 were females and 43 were males.

Students enrolled in developmental reading courses are required to attend because they failed to place above the school's cut-off score on the reading comprehension subtest of the NJCBSPT.

TABLE 1

Distribution of Subjects

| | RLA-107 | RLA-109 | Total |
|---|---|---|---|
| | N | N | |
| Male | 80 | 43 | 123 |
| Female | 137 | 48 | 185 |
| Total | 217 | 91 | 308 |

## The Instruments

### The New Jersey College Basic Skills Placement Test

The content of the selections contained in the NJCBSPT, for example,contemporary affairs, fiction, and history, typify adult general reading interests, and are, therefore, not based on specific content areas.

Each passage is followed by multiple choice questions which require test takers to read the selections carefully for accurate interpretation of the text. Attention to tone and detail on the part of the reader, is essential as well as the ability to generalize. All levels of questioning (literal, inferential, and applied) are utilized. According to the Wehrle study (1987, p30),while the readability means ran from grade nine to grade fifteen, the modal reading level for the eleven passages of the NJCBSPT was equal to $12^{th}$ grade.

### Validity and Reliability of the NJCBSPT

The NJCBSPT is a criteron referenced test as it measures student ability on specific subskills such as understanding the main idea, supporting details, drawing inferences, and recognizing relationships. It is reviewed and modified, if deemed necessary, on an annual basis by the New Jersey Basic Skills Council to help assure content validity.

A new form of the test is used each year to measure proficiencies of incoming freshmen. Results are scrutinized by the New Jersey Basic Skills Council, the Reading and Writing Advisory Committee, and the professional staff of Educational Testing Service.

A maximum of seven new items, per year, (which have been pre-tested on previous tests as control items) are cycled in to replace items the Council finds necessary to eliminate ( New Jersey Basic Skills Council, 1987).

A negative skew in the normal curve is shown in the distribution of scores on the multiple choice section of the test ( New Jersey Basic Skills Council, 1987). This finding indicates that several of the questions must be at a fairly low level in order to identify those students who would benefit most from an intensive basic skills remedial program at the college level.

Scaled scores, rather than raw scores, are used to compare test results since the number of questions vary from section to section. The level of difficulty also differs from form to form, therefore, reporting results in scaled scores simplifies making comparisons.

The reliability coefficient, using the Kuder-Richardson Formula 20, ( KR-20) is .89. The Standard Error of Measurement ( SEm) is .42,based on raw scores. Both the KR-20 and the SEm are used to measure variation of scores from form to form ( State of New Jersey, 1984).

The Degrees of Reading Power Test

The purpose of the Degrees of Reading Power Test is to measure how well students read in "real life" situations. The thrust is on how well the reader constructs meaning from the text rather than on the level of mastery of specific subskills. The DRP is a single-objective test that measures surface meaning comprehension through a modified cloze procedure. Each DRP test is a series of eleven graded passages arranged in order of successive text difficulty. Test items are designed so that the entire selection must be read and understood in order for a correct response to have been given. Answer options are common, high frequency words. Efforts have been made by the developer not to include distractors such as homonyms, antonyms, and synonyms.

Validity and Reliability of the DRP

The DRP is a criterion referenced test that does not rely on comparison scores of a norming sample. It measures student ability on an absolute scale. Scores are reported in DRP units and are based on a scale from 0 to 100 with 100 representing the most difficult of prose. Assessment of text difficulty is arrived at by using The Bormuth Mean Cloze Readability Formula (Appendix B). This formula has a low standard error of measurement and a high validity rate (r=.92) and also eliminates the need to report scores in terms of grade levels.

To control for item bias, DRP test passages are randomly selected from a variety of prose subject matter. They, therefore, closely resemble readings that are required in content area courses.

Internal consistency reliability of the DRP is measured by using the Kuder-Richardson 20 ( KR-20) reliability coefficient. All forms of the test have been measured by using this formula. Fifty-nine of the 72 tests monitored show a .95 or greater reliability coefficient. Standard error of measurement based on raw scores, ranges from a 2.2 to a 3.8 indicating that the DRP has a high degree of internal consistency.

Analysis-of-variance (ANOVA) research has been done on the DRP to check for test bias regarding ability by sex, race, and socioeconomic status. No significant interaction has been reported ( College Entrance Examination Board,1986).

## Collection of Data

The students involved in this study were pre-tested with the 1987 version of the NJCBSPT during the Summer of 1987 (prior to course enrollment). The testing was conducted in a large group setting with all incoming freshmen participating in the testing at the same time.

Pre-testing with the DRP occured during the first week of class in regular classroom settings. RLA-107 was pre-tested with DRP form B and RLA-109 was pre-tested with DRP form A.

Post-testing occured during the last week of class, December, 1987. All students were given the 1985 version of the NJCBSPT while in their regular classrooms.

Post-testing with the DRP also occured during the last week of school during regular class time. RLA-107 was post-tested with DRP form A and RLA-109 was post-tested with DRP form B. Scores were reported by each instructor at the end of the semester.

## Treatment of Data

The pre- and post-test data collected were subjected to a two-way analysis of variance, repeated measures, procedures (Sex xTrials).

Separately, the pre- and post-test NJCBSPT scores and pre- and post-test DRP scores were subjected to Pearson Product Moment correlation procedures. Significance was set at the .05 level.

## Summary

This chapter discussed the students from William Paterson College, who were selected to participate in the study. Next, procedures for data collection were outlined. The concluding section described treatment of the collected data. Results will be discussed in the following chapter.

# CHAPTER IV

## Results and Discussion

This research project was conducted to determine how well the Degrees of Reading Power Test would correlate with the reading comprehension subtest of the NJCBSPT. All sections of the basic skills reading courses were pre- and post-tested with both the NJCBSPT and the DRP. RLA-109 (N=91) represents the higher level reading course while RLA-107 ( N=217) represents the lower level course. Initial student course placement was determined by individual NJCBSPT scores.

## Correlation Study

To determine the degree of relationship, the pre- and post-test scores were subjected to Pearson Product Moment correlation procedures. The results are summarized in Table 2.

At the pre-test, scores for both reading levels showed a low positive correlation: .310 for the lower level and .391 for the upper level. At the post-test, the relationship was still positive but much stronger: .766 for the lower level and .653 for the upper level. All correlations were

very significant. ( With degrees of freedom set at 100+, an r value of .321 is significant at the .0005 level.)

One possible explanation for the change in the degree of the positive correlation from pre- to post-tests may lie in the testing conditions. During the spring and summer prior to the beginning of the Fall, 1987 semester, all students were tested with the NJCBSPT to determine whether or not they needed remedial courses. NJCBSPT testing is conducted en mass in the gym with hundreds of students being tested at the same time. The entire battery is given on an individual day and requires four to five hours from beginning to end. Often times, students fail to take this test with the seriousness that they should because they have already been admitted to the college. The fifty minute reading comprehension subtest is just one part. Students generally do not take the alloted time, finishing quickly. With a more thoughtful approach, scores may be higher.

In contrast, the DRP is administered in class during the first week of school. It is given untimed to groups of 15 to 20 students. Students tend to take the DRP with a greater degree of seriousness because they know that if they score well, they may be able to exit from the remedial program.

At post-testing, both tests are administered in a classroom situation with no other activity scheduled. Students

know that scores are very important in determining whether or not they pass the course; therefore, they approach the task with a high degree of determination and seriousness.

Thus, while the correlation relationship between the two tests is positive, the post-test conditions, which were approximately the same for both tests, produced much stronger positive correlations that can be described as moderate to high. This is consistent with the .73r found with the pilot test results done at the post-testing of a sample of Spring,1987, students ( N=36).*

It would seem that, at the post-test especially, the two tests are measuring the same global construct referred to as reading comprehension.

*Conversation with J.T. Feeley, May 1, 1988.

TABLE 2

Means, Standard Deviations, and Correlations Between Degrees of Reading Power and New Jersey Basic Skills Placement Test

Pre- and Post-test RLA-107 and 109

N=308

| | Pre-tests | | | Post-tests | | |
|---|---|---|---|---|---|---|
| | DRP | NJCBSPT | r | DRP | NJCBSPT | r |
| RLA-107 N=217 | 45.00 (8.53) | 16.76 (4.05) | .310 | 50.56 (11.60) | 24.19 (6.86) | .766 |
| RLA-109 N=91 | 51.49 (6.82) | 22.18 (3.76) | .391 | 53.51 (5.77) | 27.07 (5.60) | .653 |

A Descriptive Look at the Two Measures

Besides the correlational studies, other statistical procedures were run on the scores generated from the administration of the two tests given to both levels of remedial students. The results will be reported for each test separately.

NJCBSPT

Both pre- and post-test scores on the NJCBSPT comprehension subtest were subjected to analysis of variance (ANOVA), repeated measures, procedures (Sex x Trials). The ANOVA procedures revealed that sex was not a factor nor were there any interactive effects. Only the gains made from pre- to post-test for both levels were significant ( 107: $F=286$, $p<.0001$; 109: $F=73.18$, $p<.0001$). The lower level (RLA-107) registered pre- and post-test means of 16.76 and 24.19 respectively. The upper level (RLA-109) group started higher (M=21.18),recording a smaller but still significant gain (post-test M=27.07).

The NJCBSPT reading comprehension subtest measures the subskills necessary for successful college reading. In order for students to survive upper level courses, they must have proficiency in comprehension.

Results indicate that both test groups scored higher after receiving a semester of developmental reading instruction.

Usually such courses, although they do not teach to the test, focus on comprehension strategies such as determining main idea, supporting details, and inferencing skills, which are assessed by tests like the NJCBSPT.

As suggested by Wehrle (1985), the NJCBSPT does not test prior knowledge to any significant degree, therefore, it would be highly unlikely that any exposure to topics included on the test would effect test results. But students who are directly engaged in reading text selections in order to answer specific multiple choice questions afterwards, do usually become better at the task.

Students in both RLA-107 and 109 read factual selections from general education materials such as social sciences and humanities, current pieces from current news magazines, and at least one fully developed novel. They answered questions on all thinking levels from literal to critical in post-reading exercises. It appears that massed practice in reading and reflecting on a wide variety of materials leads to improved comprehension as measured by tests like the NJCBSPT.

TABLE 3

Means and Standard Deviations for RLA-107:

Sex x Trials on the New Jersey Basic Skills

Placement Test (NJCBSPT)

(N=217)

| | N | $\bar{X}$ | SD | $\bar{X}$ | SD |
|---|---|---|---|---|---|
| | | Trial 1 | (Pre-test) | Trial 2 | (Post-test) |
| Female | 137 | 16.55 | (4.21) | 23.99 | (6.54) |
| Male | 80 | 17.10 | (3.73) | 24.54 | (7.42) |
| Total | 217 | 16.76 | (4.05) | 24.19* | (6.86) |

*F=286, $p < .0001$

TABLE 4

Means and Standard Deviations for RLA-109:
Sex x Trials on the New Jersey Basic Skills
Placement Test (NJCBSPT)
(N=91)

| | N | $\bar{X}$ | SD | $\bar{X}$ | SD |
|---|---|---|---|---|---|
| | | Trial 1 (Pre-test) | | Trial 2 (Post-test) | |
| Female | 48 | 21.63 | (4.26) | 26.63 | (5.62) |
| Male | 43 | 22.79 | (3.04) | 27.56 | (5.61) |
| Total | 91 | 21.18 | (3.76) | 27.07* | (5.60) |

*F=74.18, $p < .0001$

DRP

Likewise, both pre- and post-test scores of the DRP test were subjected to analysis of variance (ANOVA), repeated measures, procedures ( Sex x Trials). The ANOVA procedures indicated that both sex and trials were factors. For the RLA-107 group ( N=217), males scored an average of five points higher on the pre-test than did their female counterparts. Post-test scores, however, reveal that by the end of the semester males scored an average of only 1.5 points ahead of the females. The F ratio for the main effect of sex was 5.38 ($p < .02$) indicating that, overall , the males did significantly better on the DRP than did the females. (See Table 5).

For the RLA-109 group (N=91), sex and trials were significant factors also. This time the results were more consistent over time with males averaging approximately three points higher than females at both the pre- and post-test observations. (See Table 6). This difference was significant ($F=7.38$, $p < .008$).

It is difficult to explain the sex factor that emerged from this administration of the DRP. The test manual reports no sex difference in any of the field testing done by the developers. In discussing this result, a group of basic

skills staff members noted that the DRP requires deep processing as readers go back and forth through a text to select items that make sense in the total piece. Could it be that males are better at this more reflective task than are females? Could there be something special about this sampling of college students that produced the effect? Given the large sample size and consistency of results across the two reading levels, the sex factor appears to be real, but the reason remains illusive. Certainly, further study would be recommended.

As for change from pre- to post-test, both levels made significant gains (RLA-107: $F=40.67$, $p$ .0001; RLA-109: $F=7.04$, $p$ .009). While the 109 group showed an average gain of two points, the 107 group registered a gain of five points on the average. As with the NJCBSPT, the results showed that students who are engaged in worthwhile comprehension activities by using real-world, whole-text, reading materials (text selections, news stories, novels) will show improvement on a measure of comprehension such as the DRP. The results of the post-tests for both levels prove the axiom that "We learn to read by reading."

TABLE 5

Means and Standard Deviations for RLA-107:

Sex x Trials on the Degrees of Reading Power Test

N=217

| | N | $\bar{X}$ | SD | $\bar{X}$ | SD |
|---|---|---|---|---|---|
| | | Trial 1 (Pre-test) | | Trial 2 (Post-test) | |
| Female | 137 | 43.51 | (9.26) | 50.06 | (10.79) |
| Male | 80 | 47.54 | (6.39) | 51.42 | (12.87) |
| Total | 217 | 45.00 | (8.53) | 50.56 | (11.60) |

*Sex is a factor $F=5.38$, $p < .02$

*Trials is a factor $F=40.67$, $p < .0001$

TABLE 6

Means and Standard Deviations for RLA-109:

Sex x Trials on the Degrees of Reading Power Test

N=91

| | | $\bar{X}$ | SD | $\bar{X}$ | SD |
|---|---|---|---|---|---|
| | N | Trial 1 | (Pre-test) | Trial 2 | (Post-test) |
| Female | 48 | 50.13 | (8.55) | 52.17 | (6.80) |
| Male | 43 | 53.02 | (3.64) | 55.00 | (3.92) |
| Total | 91 | 51.49 | (6.82) | 53.51 | (5.77) |

Sex is a factor $F=7.38$, $p < .008$

Trials is a factor $F=7.04$, $p < .009$

# CHAPTER V

## Summary, Conclusions, and Recommendations

### Summary

This study was conducted for the purpose of ascertaining to what degree the Degrees of Reading Power Test may be correlated to the comprehension subtest of the New Jersey College Basic Skills Placement Test.

Traditionally, the Nelson-Denny Reading Test has been the test of choice and the most frequently used mechanism for validating comprehension scores of students who have taken the NJCBSPT. Research indicates that a major drawback for use of the Nelson-Denny Reading Test lies in its link to what is taught in a comprehensive high school curriculum (Feeley,et al, 1985). Moreover, the Entin and Klare study (1980) indicates that students who are skilled in testwiseness could correctly answer items without actual comprehension having taken place.

Colleges in New Jersey have been seeking an alternative to the Nelson-Denny to validate scores on the NJCBSPT. The DRP, a new test developed by the College Board, may be an answer. A first step would appear to be a wide scale adminis-

tration of the DRP to a sample New Jersey freshmen remedial cohort to see how scores between the new test (DRP) and the state test would correlate. Other descriptive data on the results of all the tests could shed more light on how well the new test worked on sub-groups within the remedial cohort. This first step was taken at William Paterson College during the Fall, 1987 semester when 217 students in RLA-107 and 91 students in RLA-109 participated in this study.

## Conclusions

The major conclusions of this study are:

1. The new test, DRP, does positively correlate with the current state test, NJCBSPT, in its present format. This correlation may be described as moderate to high when post-test scores , generated under similar conditions for both tests, are considered.
2. For this sample, sex was a factor on the DRP with males significantly outpreforming females across levels.
3. Students who complete a basic skills course which emphasizes comprehension strategies taught through the reading of a variety of whole texts (content area selections, news stories, novels) make significant gains as measured by comprehension tests such as the DRP and NJCBSPT. The direct-instruction-via-whole-language-materials model appears to be effective.

## Recommendations: College Basic Skills Reading

Very few reading comprehension tests are available on a college level. It is, therefore, of paramount importance for administrators and teachers of college basic skills reading programs to understand what each test is designed to do. Van Meter and Herrmann (1986) point out in their study, the much used Nelson-Denny Reading Test is also the most misused test among college communities. The Nelson-Denny Reading Test was designed to be used as a survey instrument, not as a diagnostic tool and not as a measure of growth. Yet, it is most frequently used in these ways in today's colleges.

The NJCBSPT seems to be a fairly reliable predictor for checking comprehension skills. Data provided by the New Jersey Basic Skills Council indicate that students who place low on the test need remedial instruction. Most students who complete the remediation can go on to succeed in college. Still, reading instructors need other measures to validate the state test scores.

The DRP test which measures students' abilities to process and comprehend prose, may be a good second test. Passages are graded thereby lessening the likelihood of frustration on the part of the testee. The DRP was designed so that

semester growth can be measured. This is a desirable feature when multiple criteria for placement in remediation are being used. This study has shown that the DRP is positively correlated with the NJCBSPT which New Jersey colleges must use.

If tests are not used in the way and for the purposes in which they were intended, testing becomes mechanical and loses its significance.

The DRP appears to be a viable alternative to other standardized tests, especially the Nelson-Denny Reading Test, when multiple criteria are desired. As proper placement and instruction are the goals of all college reading teachers and administrators, the merits of this test should be seriously considered by instructors here in New Jersey and instructors of college reading courses everywhere.

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## APPENDIX A

NJCBSPT Reading Passage Criteria

I. Passages should be clearly written, an example of "good" prose.

II. Passage should be on academically acceptable subject.

- A. Physical sciences
- B. History
- C. Social sciences
- D. Contemporary affairs
- E. Fiction
- F. Arts and literature

III. Passages should reflect different modes, as traditionally described.

- A. Exposition
- B. Persuasion
- C. Description
- D. Narration
- E. Analysis

IV. Passages should reflect different writing styles.

V. Some passages should reflect cultural diversity of the United States and the changing roles of women.

VI. No passage should be insulting to or emotionally disturbing to a particular group.

VII. Passages should not deal with subjects so parochial that only native-born students understand them (for example, drive-in movies, baseball).

APPENDIX A

IX. Passages should be about 200-300 words.

X. Passages should be of sufficient density to yield 7 distinct questions;

main idea

direct statement

inference

relationship of sentences

Specifications for Reading Comprehension Test--50 minutes 47 questions.

47 items-final form

7 items-pretest

Problems tested;

I. Identifying main ideas and supporting details.

II. Understanding what is stated directly in the passage.

III. Drawing inferences from information in the passage.

IV. Understanding the relationship between sentences.

Item type: reading comprehension passages.

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## APPENDIX B

### The Bormuth Mean Cloze Readability Formula

For passage X, let the number of:

a) letters in passage=LET

b) words in passage=W

c) Dale Long List words in passage=DLL, and

d) sentences in passage=SEN, then

$$\text{Readability}(R) = .886593 - .083640(LET/W) + .161911(DLL/W)^3 - .021401(W/SEN) + .000577(W/SEN)^2 - .000005(W/SEN)^3$$

DRP units=(1-Bormuth's value)x100.

DRP Handbook (1986) pp.7,8